IN THE SPECIFICATION:

Insert a new paragraph beginning on page 1, line 2, as follows:

--CLAIM OF PRIORITY

This application claims priority under 35 USC 371 to International Application No. PCT/JP2004/016644, filed on November 10, 2004, which claims priority to Japanese Patent Application No. 2003-434075, filed on December 26, 2003, each of which is incorporated by reference in its entirety.--

Amend the paragraph beginning on page 4, line 25 as follows:

In order to solve the above-described problems, there is provided a semiconductor device according to Claim 1 of the present invention which comprises: a capacitance element one end of which is connected to a power supply voltage; a first comparator which has two input nodes having opposite polarity to each other and receives a reference voltage and ~~a power supply voltage~~ an output of other end of the capacitance element at their inputs to compare the respective voltage values to output a signal indicating a comparison result; a first resister element which connects the one side input node and the other side input node of the first comparator; ~~a capacitance element one end of which is connected to a power supply terminal which applies said power supply voltage and the other end of which is connected to the one side input node of the comparator;~~ and the first comparator activates the output signal indicating the comparison result when the voltage difference between the inputted reference voltage and the ~~power supply voltage varies~~ inputted output of other end of the capacitance element occurs.

Amend the paragraph beginning on page 5, line 15 as follows:

A semiconductor device according to Claim 2 of the present invention comprises, in a semiconductor device as defined in claim 1, the first comparator comprising a hysteresis comparator which activates the output signal indicating the comparison result when the voltage difference between the inputted reference voltage and the ~~power supply voltage~~ inputted output of other end of the capacitance element becomes larger than a predetermined hysteresis width.

Amend the paragraph beginning on page 5, line 22 as follows:

A semiconductor device according to claim 3 of the present invention comprises, in a semiconductor device as defined in claim 1, further a second and a third resister element connected in series between the power supply ~~terminal~~ voltage and the ground terminal to divide the power supply voltage; a second comparator having two input nodes and receives the ~~power supply~~ voltage divided by the second and the third resister element and the reference voltage at its inputs to compare those; and a logic OR circuit which takes a logic OR operation of the output signal of the first comparator and the output signal of the second comparator.

Amend the paragraph beginning on page 6, line 7 as follows:

A semiconductor device according to claim 4 of the present invention comprises, in a semiconductor device as defined in ~~any of claims 1-3~~claim 3, further a reset portion which receives the output signals of the first comparator or the logic OR circuit at their inputs, and the stops the operation of the system including the semiconductor device when the output signal of the first comparator or the output signal of the second comparator is activated.

Amend the paragraph beginning on page 6, line 16 as follows:

A semiconductor device according to claim 5 of the present invention comprises, in a semiconductor device as defined in ~~any of claims 1 to 3~~claim 3, further a switching part which

switches the value of the ~~power supply voltage~~ output of other end of the capacitance element which is inputted to either of the input nodes of the first comparator to an arbitrary value.

Amend the paragraph beginning on page 6, line 25 as follows:

A semiconductor device according to claim 7 of the present invention comprises: a first and a second capacitance elements one end of which is connected to a power supply voltage; a first ~~and a second comparators each of~~ comparator which has two input nodes having opposite polarity to each other and receives a reference voltage and ~~a power supply voltage~~ an output of other end of the first capacitance element at their inputs to compare the respective voltage values to output a signal indicating a comparison result; a second comparator which has two input nodes having opposite polarity to each other and receives a reference voltage and an output of other end of the second capacitance element at their inputs to compare the respective voltage values to output a signal indicating a comparison result; a first and a second resister elements each of which connects the one side input node and the other side input node of the first and the second comparators, respectively; ~~a first and second capacitance elements, one end of which is both connected to a power supply terminal which applies said power supply voltage, and the other end of which is connected to the one side input node of the first and the second comparator, respectively;~~ a logic OR circuit which takes a logic OR operation of the output signal of the first comparator and the output signal of the second comparator: the first and the second comparators respectively activate the output signal indicating the comparison results when the voltage difference between the inputted reference voltage and the ~~power supply voltage varies~~ inputted output of other end of the capacitance element occurs, and the polarity of the input node which receives the ~~power supply voltage~~ output of other end of the first capacitance element in the first comparator and the polarity of the input node which receives the ~~power supply voltage~~ output of other end of the second capacitance element in the second comparator are opposite to each other.

Amend the paragraph beginning on page 7, line 22 as follows:

A semiconductor device according to claim 8 of the present invention comprises, in a semiconductor device as defined in claim 7, further the first comparator and the second comparator respectively being hysteresis comparators which activates the output signal indicating the comparison result when the voltage difference between the inputted reference voltage and the ~~power supply voltage~~ inputted output of other end of the first capacitance element is larger than a predetermined hysteresis width. ~~Thereby, the variations in the power supply voltage which do not affect the operation of the semiconductor device may not be erroneously detected as abnormal voltage variation.~~

Amend the paragraph beginning on page 8, line 7 as follows:

A semiconductor device according to claim 9 of the present invention comprises, in a semiconductor device as defined in claim 7, further a third and a fourth resister elements connected in series between the power supply ~~terminal~~ voltage and the ground terminal to divide the power supply voltage, and a third comparator which has two input nodes and compares the ~~power supply~~ voltage which is divided by a third and a fourth resister elements and the reference voltage to output a signal indicating the comparison result to the logic OR circuit.

Amend the paragraph beginning on page 8, line 16 as follows:

A semiconductor device according to claim 10 of the present invention comprises, in a semiconductor device as defined in ~~any of claims 7 to 9~~claim 9, further a reset part which receives the output signal of the logic OR circuit at its input and stops the operation of a system including the semiconductor device when the output signal of the first comparator, the second comparator, or the third comparator is activated.

Amend the paragraph beginning on page 8, line 23 as follows:

A semiconductor device according to claim 11 of the present invention comprises, in a semiconductor device as defined in ~~claims 7 to 9~~claim 9, further a switching part which switches the value of the ~~power supply voltage~~ output of other end of the first capacitance element which is inputted to either of the input nodes of the first ~~and the second comparators~~ comparator and the value of the output of other end of the second capacitance element which is inputted to either of the input nodes of the second comparator to an arbitrary value.

Amend the paragraph beginning on page 9, line 10 as follows:

Since in order to solve the above-described problems, a semiconductor device according to Claim 1 of the present invention which comprises: a capacitance element one end of which is connected to a power supply voltage; a first comparator which has two input nodes having opposite polarity to each other and receives a reference voltage and ~~a power supply voltage~~ an output of other end of the capacitance element at their inputs to compare the respective voltage values to output a signal indicating a comparison result; a first resister element which connects the one side input node and the other side input node of the first comparator; ~~a capacitance element one end of which is connected to a power supply terminal which applies said power supply voltage and the other end of which is connected to the one side input node of the comparator;~~ and the first comparator activates the output signal indicating the comparison result when the voltage difference between the inputted reference voltage and the ~~power supply voltage varies~~ inputted output of other end of the capacitance element occurs, the voltage variations can be detected ~~irregardless~~ regardless of the power supply voltage value before the voltage variations. As a result, with relative to the prior art semiconductor device, the parameters which should be considered on designing are reduced, and the circuit design is simplified.

Amend the paragraph beginning on page 10, line 5 as follows:

Since the semiconductor device according to Claim 2 of the present invention comprises, in a semiconductor device as defined in claim 1, the first comparator comprising a hysteresis comparator which activates the output signal indicating the comparison result when the voltage difference between the inputted reference voltage and the ~~power supply voltage~~ inputted output of other end of the capacitance element becomes larger than a predetermined hysteresis width, the variations in the power supply voltage which does not affect on the operation of the semiconductor device may not be erroneously detected as abnormal voltage variations.

Amend the paragraph beginning on page 10, line 15 as follows:

Since a semiconductor device according to claim 3 of the present invention comprises, in a semiconductor device as defined in claim 1, further a second and a third resister element connected in series between the power supply ~~terminal~~ voltage and the ground terminal to divide the power supply voltage; a second comparator having two input nodes and receives the ~~power supply~~ voltage divided by the second and the third resister element and the reference voltage at its inputs to compare those; and a logic OR circuit which takes a logic OR operation of the output signal of the first comparator and the output signal of the second comparator, not only the steep voltage variations but also smoothly varying voltage variations can be detected.

Amend the paragraph beginning on page 11, line 2 as follows:

Since a semiconductor device according to claim 4 of the present invention comprises, in a semiconductor device as defined in ~~any of claims 1 to 3~~claim 3, further a reset portion which receives the output signals of the first comparator or the logic OR circuit at their inputs, and stops the operation of the system including the semiconductor device when the output signal of the first comparator or the output signal of the second comparator is activated, even if attacks such as falsification of data or unjustified reading out is carried out by steeply changing the

power supply voltage, this is automatically detected to conduct a reset and thus it is possible to take countermeasures against such attacks.

Amend the paragraph beginning on page 11, line 14 as follows:

Since a semiconductor device according to claim 5 of the present invention comprises, in a semiconductor device as defined in ~~any of claims 1 to 3~~claim 3, further a switching part which switches the value of the ~~power supply voltage~~ output of other end of capacitance element which is inputted to either of the input nodes of the first comparator to an arbitrary value, it is possible t confirm whether the comparator is operating normally.

Amend the paragraph beginning on page 11, line 21 as follows:

Since a semiconductor device according to claim 7 of the present invention comprises: a first and a second capacitance elements one end of which is connected to a power supply voltage; a first ~~and a second comparators each of~~ comparator which has two input nodes having opposite polarity to each other and receives a reference voltage and ~~a power supply voltage~~ an output of other end of the first capacitance element at their inputs to compare the respective voltage values to output a signal indicating a comparison result; a second comparator which has two input nodes having opposite polarity to each other and receives a reference voltage and an output of other end of the second capacitance element at their inputs to compare the respective voltage values to output a signal indicating a comparison result; a first and a second resister elements each of which connects the one side input node and the other side input node of the first and the second comparators, respectively; ~~a first and a second capacitance elements, one end of which is both connected to a power supply terminal which applies said power supply voltage, and respective the other end of which is connected to the one side input node of the first and the second comparator, respectively;~~ a logic OR circuit which takes a logic OR operation of the output signal of the first comparator and the output signal of the second comparator: the first and the second comparators respectively activate the output signal indicating the comparison results when the voltage difference between the inputted reference voltage and the ~~power supply voltage~~

~~varies~~ inputted output of other end of the capacitance element occurs, and the polarity of the input node which receives the ~~power supply voltage~~ output of other end of the first capacitance element in the first comparator and the polarity of the input node which receives the ~~power supply voltage~~ output of other end of the first capacitance element in the second comparator are opposite to each other, the voltage variations at positive side and at the negative side can be detected without dependent on the power supply voltage value before the voltage variation. As a result, with relative to the prior art device, the parameters which should be considered in designing can be reduced, and the circuit designing is eased.

Amend the paragraph beginning on page 12, line 24 as follows:

Since a semiconductor device according to claim 8 of the present invention comprises, in a semiconductor device as defined in claim 7, further the first comparator and the second comparator respectively being hysteresis comparators which activates the output signal indicating the comparison result when the voltage difference between the inputted reference voltage and the ~~power supply voltage~~ inputted output of other end of the first capacitance element is larger than a predetermined hysteresis width, it may not occur that variations in the power supply voltage which do not affect the operation of the semiconductor device should be erroneously detected as abnormal voltage variation. Or it may not occur that variations in the power supply voltage which do not affect on the operation of the semiconductor device should be erroneously detected as abnormal voltage variation.

Amend the paragraph beginning on page 13, line 12 as follows:

Since a semiconductor device according to claim 9 of the present invention comprises, in a semiconductor device as defined in claim 7, further a third and a fourth resister elements connected in series between the power supply ~~terminal~~ voltage and the ground terminal to divide the power supply voltage, and a third comparator which has two input nodes and compares the ~~power supply~~ voltage which is divided by a third and a fourth resister elements and the reference

voltage to output a signal indicating the comparison result to the logic OR circuit, not only the steep voltage variations but also smoothly varying voltage variations can be detected.

Amend the paragraph beginning on page 13, line 23 as follows:

Since a semiconductor device according to claim 10 of the present invention comprises, in a semiconductor device as defined in ~~any of claims 7 to 9~~claim 9, further a reset part which receives the output signal of the logic OR circuit at its input and stop the operation of a system including the semiconductor device when the output signal of the first comparator, the second comparator, or the third comparator is activated, even when attacks such as falsification of data or unjustified reading out is carried out by steeply changing the power supply voltage, this is automatically detected to conduct a reset and this it is possible to take countermeasures against such attacks.

Amend the paragraph beginning on page 14, line 10 as follows:

Since a semiconductor device according to claim 11 of the present invention comprises, in a semiconductor device as defined in ~~claims 7 to 9~~claim 9, further a switching part which switches the value of the ~~power supply voltage~~ output of other end of the first capacitance element which is inputted to either of the input nodes of the first ~~and the second comparators~~ comparator and the value of the output of other end of the second capacitance element which is inputted to either of the input nodes of the second comparator to an arbitrary value, it is possible to confirm whether the comparator is operating normally.

Amend the paragraph beginning on page 16, line 10 as follows:

4 power supply ~~terminal~~ voltage

Amend the paragraph beginning on page 16, line 18 as follows:

IN1 input terminal of an arbitrary ~~power supply~~ voltage

Amend the paragraph beginning on page 17, line 16 as follows:

Figure 1 is a diagram illustrating a circuit construction of a semiconductor device according to a first embodiment of the present invention. The semiconductor device shown in figure 1 includes a comparator 1, a resister element 2, and a capacitor element 3. The comparator 1 has two input terminals (input terminals N1 and N2)., ~~and receives the reference voltage and the power supply voltage at its inputs and compares those.~~ The capacitor element 3 has its one side end which is connected to the power supply voltage 4 and its other side end which is connected to one side input terminal (input terminal N1) of the comparator 1 via the signal line L1. The input terminal 5 of the reference terminal is connected to the other side input terminal (input terminal N2) of the comparator 1 via the signal line L2. The comparator 1 receives the reference voltage and an output of the other end side of capacitance 3 to compare those. The resister element connects between the signal line L1 which is connected to the input terminal N1 and the signal line L2 which is inputted to the input terminal N2 of the comparator 1. ~~The capacitor element 3 has its one side and which is connected to the power supply terminal 4 and its other side end which is connected to one side input terminal (input terminal N1) of the comparator 1. The input terminal 5 of the reference terminal is connected to the other side input terminal N2) of the comparator 1 via the signal L2.~~

Amend the paragraph beginning on page 18, line 22 as follows:

First of all, at time to, ~~a power supply voltage VDD is applied to the power supply voltage terminal 4~~ the power supply voltage 4 (the power supply voltage VDD) is applied, and a reference voltage VREF is applied ~~to the input terminal 5 of the reference voltage~~. Then, the voltages which are inputted to the input terminal N1, N2 of the comparator 1 are equal to each other by the resister element 2.

Amend the paragraph beginning on page 19, line 23 as follows:

As described above, a semiconductor device according to the first embodiment of the present invention can provide the following effects. That is, while the prior art semiconductor device the detection level of the voltage variation depends on the power supply voltage value because ~~the power supply voltage which was divided by the resister elements is simply compared with the reference voltage~~ simply the power supply voltage is divided by the resister element and the voltage which was divided by the resister elements is compared with the reference voltage, in the semiconductor device according to the first embodiment of the present invention, the detection level of the voltage variation does not depend on the power supply voltage value before the voltage variation because the voltage variation from the state where ~~the reference voltage and the power supply voltage value~~ the value of the output of other end side of the capacitance element 3 has one side which is connected to the power supply voltage and the reference voltage is made the same value by the resister element 2. As a result, with relative the prior art semiconductor device, parameters which should be considered in designing are reduced, and the circuit design is eased.

Amend the paragraph beginning on page 21, line 9 as follows:

The hysteresis comparator 6 outputs a high detected signal Y1 when the difference between the reference voltage and the ~~power supply voltage~~ output of the capacitance element 3 which are two input terminals (input terminal N3 and N4) is larger than the hysteresis width (largeness of the voltage variation).

Amend the paragraph beginning on page 21, line 18 as follows:

In figure 4, first of all, ~~a power supply voltage VDD is applied to the power supply terminal 4~~ the power supply voltage 4 (the power supply voltage VDD) is applied, and a reference voltage VREF is applied to the reference voltage input terminal 5. Then, the voltages

which are inputted to the input terminal N3 and the N4, respectively are made equal to each other by the resister element 2.

Amend the paragraph beginning on page 22, line 22 as follows:

As described above, according to the semiconductor device of the second embodiment, the voltage variation from the state where the reference voltage value and the power supply voltage value and the ~~power supply voltage value~~ value of the output of the capacitance element 3 are made equal to each other by the resister element 2, is detected by the hysteresis comparator 6. Thereby, the voltage variation can be detected without depending on the power supply voltage before the voltage variation in the power supply voltage should arise. As a result, with relative to the prior art semiconductor device, parameters which should be taken into considerations on designing are reduced, thereby the circuit design is eased. Further, even if a voltage variation which is smaller than the hysteresis width established in the hysteresis comparator 6 is generated, the detected signal Y1 would not become high level. Thereby, it may not arise that the variation in the power supply voltage which does not affect on the operation of the semiconductor device should erroneously be detected as abnormal voltage variation.

Amend the paragraph beginning at page 24, line 10 as follows:

The semiconductor device shown in figure 5 includes hysteresis comparators 6 and 7, the resister elements 2 and 8, the capacitance elements 3 and 9, and the logic OR circuit 10. The hysteresis comparator 6 has input terminals (input terminal N3 and N4). ~~and receives the reference voltage and the power supply voltage as at its inputs to compare those~~. The capacitance element 3 has its one side end which is connected to the power supply voltage 4 and its other side end which is connected to one side input terminal (input terminal N3) of the hysteresis comparator 6.

The hysteresis comparator 6 receives the reference voltage and the output of the other side end of the capacitance element 3 to compare those. The hysteresis comparator 7 has input terminals (input terminal N5 and N6). ~~and receives the reference voltage and the power supply~~

~~voltage as at its inputs to compare those.~~ The capacitance element 9 has its one side end which is connected to the power supply voltage 4 and its other side end which is connected to one side input terminal (input terminal N5) of the hysteresis comparator 6. The hysteresis comparator 7 receives the reference voltage and the output of the other side end of the capacitance element 9 to compare those. Here, the polarity of its inputs which receive the ~~power supply voltage~~ output of the other side end of the capacitance element 9 and the reference voltage are made reverse to those in the hysteresis comparator 6. The resister element 2 connects the signal line L3 connected to the input line N3 of the hysteresis comparator 6 and the signal line L4 connected to the input terminal N4 of the hysteresis comparator 6. The resister element 8 connects the signal line L5 connected to the input terminal N5 of the hysteresis comparator 7 and the ~~signsal~~ signal line L6 connected to the input terminal N6 of the hysteresis comparator 7. ~~The capacitance element 3 has its one side end which is connected to the power supply terminal 4 and its other side end which is connected to one side input terminal (input terminal N3) of the hysteresis comparator 6. The capacitance element 9 has its one side end which is connected to one side input terminal (input terminal N6) of the hysteresis comparator 7~~. A logic OR circuit 10 takes a logic OR operation of detected signals Y1, Y2 which are outputted from the hysteresis comparators 6 and 7, to output a detected signal Y3.

Amend the paragraph beginning at page 25, line 16 as follows:

In figure 6, first of all, at time t0, ~~a power supply voltage VDD is applied to the power supply voltage terminal 4~~ the power supply voltage 4 (a power supply voltage VDD) is applied, and a reference voltage VREF is applied to the input terminal 5 of the reference voltage.

Amend the paragraph beginning at page 26, line 12 as follows:

Next, the power supply voltage is again risen at time t4. At time t4, ~~the power supply voltage VDD is applied to the power supply terminal 4~~ the power supply voltage 4 (the power supply voltage VDD) is applied and the reference voltage VREF 3 is applied to the input terminal for a reference voltage.

Amend the paragraph beginning at page 27, line 5 as follows:

As described above, according to the semiconductor device of the third embodiment of the present invention, the voltage variations at both of the positive side and the negative side from the state where the reference voltage value and the ~~power supply voltage value~~ value of the output of the capacitance elements 3 and 9 are made equal to each other by the resister element 2, 8 are detected by the hysteresis comparator 6, 7, respectively. Thereby, the voltage variations at the positive side and negative side can be detected without depending on the power supply voltage before the power supply voltage variation. As a result, with relative to the prior art semiconductor device, parameters which should be taken into considerations on designing are reduced, thereby the circuit design is eased. Further, even if voltage variations at positive side and negative side which are smaller than the hysteresis widths established in the hysteresis comparator 6, 7, respectively, are generated, the detected signal Y3 would not become high level. Thereby, it may not arise that the variations in the power supply voltages which do not affect on the operation of the semiconductor device should erroneously be detected as abnormal voltage variations.

Amend the paragraph beginning at page 28, line 14 as follows:

The resistor elements 12 and 13 divide the power supply voltage. The comparator 11 receives the divided ~~power supply~~ voltage from the one side input terminal N7 and receives the reference voltage from the other side input terminal N8.

Please amend the paragraph beginning at page 28, line 22 as follows:

In figure 8, at time t0, ~~a power supply voltage VDD is applied to the power supply terminal 4~~ the power supply voltage 4 (the power supply voltage VDD) is applied, and a reference voltage is applied to an input terminal for reference voltage 5.

Please amend the paragraph beginning at page 29, line 17 as follows:

Next, the power supply voltage is again risen up at time t4. Then, ~~the power supply voltage VDD is applied to the power supply voltage terminal 4~~ the power supply voltage 4 (the power supply voltage VDD) is applied, and a reference voltage VREF is applied to the input terminal for reference voltage 5.

Please amend the paragraph beginning at page 29, line 21 as follows:

Next, when it is supposed that the voltage VDD gradually rises up from time t4 to time t5, the ~~power supply~~ voltage which is divided by the resister elements 12 and 13 also rises up, to become a voltage higher than the reference voltage VFF. This voltage difference is amplified by the comparator 11 and the detected signal Y4 transits from low level. Thereby, a high level detected signal Y5 is outputted from the logic OR circuit 14, to be inputted to the reset section. Besides, the ~~power supply voltage~~ value of the output of the capacitance element 3 and the reference voltage which are inputted to the comparator 1 are made the same voltages by the resister element 2, and therefore, the comparator 1 cannot detect the smooth voltage change which arises from time t4 to time t5.

Please amend the paragraph beginning at page 30, line 9 as follows:

As described above, the semiconductor device according to the fourth embodiment of the present invention, the voltage variation from the state where the reference voltage value and the ~~power supply voltage~~ value of the output of the capacitance element 3 are made the same values by the resister element 2 is detected, and therefore, it is possible to detect a steep voltage variation can be detected without dependent on the power supply voltage value before the voltage variation arises. Consequently, with relative to the prior art semiconductor device, parameters which should be taken into considerations on designing are reduced, and the circuit design is eased. Further, since the resister elements 12 and 13, and the comparator 11 which

compares the divided voltage and the reference voltage are provided, a smooth voltage variation can also be detected.

Please amend the paragraph at page 31, line 17 as follows:

The switching section 15 includes an inverter 16, a p channel transistor 17, and an n channel transistor 18. The output of the inverter 16 is connected to the gate of the p channel transistor 17. The sources of the p channel transistor 17 and the n channel transistor 18 are connected to the input IN1 and the drains thereof are connected to the input terminal N1 of the comparator 1. The switching section 15 constituted as above switches the ~~power supply~~ voltage value which is inputted to the input terminal N1 of the comparator 1 to an arbitrary value, that is, an arbitrary ~~power supply~~ voltage value which is inputted to the input terminal IN1.

Please amend the paragraph at page 32, line 22 as follows:

First of all, at time t0, a ~~power supply voltage VDD is applied to the power supply terminal 4~~ the power supply voltage 4 (the power supply voltage VDd) is applied, and a reference voltage is applied to an input terminal for reference voltage is applied to an input terminal for reference voltage 5. Then, the voltage which is inputted to the input terminals N1 and N2 of the comparator 1 are made equal to each other by the resister element 2.

Please amend the paragraph at page 33, line 19 as follows:

As described above, the semiconductor device of the fifth embodiment of the present invention is provided with a switching section 15 which makes an arbitrary voltage inputted to a terminal for receiving the ~~power supply voltage VDD~~ output of the capacitance element 3 in the comparator, and thereby it can detect whether the comparator is normally operating or not.

Please amend the paragraph at page 34, line 17 as follows:

While in the fifth embodiment the semiconductor device of the first embodiment is provided the switching section 15 and the control section 19, the present invention is not limited thereto. For example, the semiconductor device shown in the second to fourth embodiment may; be additionally provided with the switching section 15 and the control section 19. Then, the value of the ~~power supply voltage~~ output of the capacitance element which is inputted to the one-side input terminal of the respective comparators are switched to an arbitrary voltage by the switching section 15.